

Claims

Sub 1. 1. (Dismountable prefabricated structure) notably a dwelling, made of prefabricated sandwich panels, posts and crosspieces, all these elements being modular, characterized in that the sandwich panels (1) are comprised of two rectangular plates (41, 42) with height included between 0.7 m and 3.5 m made of a hydrosilicate and conifer cellulose base material having a specific mass equal to or less than 350 kg/m³ and thickness included between 3 cm and 5 cm, maintained separated by two horizontal struts (43, 44) and a vertical strut placed on at least three sides of the plates at a certain distance from their edges in order to constitute an interior case and an exterior groove (46) on at least three sides of the panel and by a fourth strut (either) set back from the edge to make a groove similar to the one of the other sides, or extending from it so as to make a post, and so that this case may be filled with an insulating material (45), the stability of the structure being ensured by crosspieces and/or ties (25, 26, 34) under tension maintaining the panels tightly in place, and the structural shape defined by prefabricated angle parts (7).

2. (Structure) in accordance with claim 1, characterized in that the sandwich panels include a base panel with rectangular shape and panels having for width the three fourths, half or quarter of the dimension of the base panel, keeping the same height as the base panel.

Sub 2. 3. Structure in accordance with claim 1 or 2, characterized in that each horizontal row of panels has in its upper part a crosspiece or a tightened continuous horizontal tie maintaining the set of panels tight, and in that each panel is separated from the next by a

post of height equal to the height of the vertical struts of the panel and placed under the crosspiece.

4. Structure in accordance with one of the claims 1 to 3, characterized in that the insulating material is an expanded volcanic sand mortar mixed with hydrosilicate and conifer cellulose base granulates.

5. Structure in accordance with one of the claims 1 to 4, characterized in that each angle part is prefabricated in the plant and made of two exterior plates placed at a right angle and two interior plates parallel to the exterior plates in the same material as the sandwich panels and separated by the same distance as the sandwich panels by struts leaving in the angle an empty space provided for receiving a post and having an insulating material between the plates.

6. Structure in accordance with one of the claims 1 to 5, characterized in that the posts and the crosspieces have a square or rectangular section and in that the distance of the struts from the edge of the plates is equal to half the side of the square or rectangular section of the crosspieces and posts and the interval between the plates is equal to the side of this square or rectangular section.

7. Structure in accordance with one of the claims 1 to 6, characterized in that the posts and crosspieces are in solid or glued laminated wood and the struts of the panels in hydrosilicate and conifer cellulose base material having a specific mass equal to or less than 350 kg/m³ identical to the one of the plates, in wood or in metal.

8. Structure in accordance with one of the claims 1 to 6, characterized in that the posts and crosspieces and/or ties are in metal, light reinforced concrete or plastic, for example polyvinyl chloride, and the struts of the panels are in wood or in hydrosilicate and conifer cellulose base material having a specific mass equal to or less than 350 kg/M3 identical to the one of the plates.

9. Structure in accordance with one of the claims 2 to 8, characterized in that it has the door and window frames having modular dimensions relative to the panels, the posts and the crosspieces, that is to say their width is a multiple of the width of the base panel.

10. Manufacturing process of a structure in accordance with one of the above claims, characterized in that a platform is built having a surface roughly smaller than the structure. A first angle part is placed on this platform, then two ledgers in the angle part that are fastened on the platform. Then a first post is placed having a height such that it is flush with the bottom of the groove provided in the angle of the angle part as well as both posts roughly of the same height in the spaces provided in the angle part. The two sandwich panels are placed on each side of the angle part in order to enclose the last two posts placed, which constitute the start of both walls. These last operations are repeated so that a row of panels is constituted until another angle of the structure or a post making up a door or window frame is reached. Then a first crosspiece is placed in the groove provided in the upper part of the sandwich panels constituting a first wall and the same thing is done for the second wall, both crosspieces being assembled using a part provided for this in the post placed in the angle of the angle part. Once the second row of sandwich panels is placed, the crosspieces and/or ties are tightened. All these operations will be repeated until the whole structure is completed.

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11. Process in accordance with the claim characterized in that the platform is made
of wood, concrete or metal.

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